

**Abstract**

A process and apparatuses for producing low-molecular olefins by pyrolysis of hydrocarbons comprising preheating and evaporating a starting feedstock, mixing the same with steam-diluent, thermal cracking a resulting mixture in a blading rotary reactor, quenching  
5 cracked gas and subsequent separation of it. The heating reacting mixture to pyrolysis temperature is performed by mixing with hot pyrolyzed gas being circulated in a working cavity of the blading rotary reactor. The process enables to increase the low-molecular olefins yield.